REMARKS

I. Drawings

The drawings have been objected to as failing to comply with 37 CFR 1.84(p)(5) because reference number "600" is not described in the specification.

As indicated in Fig. 1, reference number 600 identifies "Encoding." As described in the specification, in the paragraph bridging pages 7 and 8, the coding side includes elements 601 to 607. Thus, Applicant has amended the specification, paragraph bridging pages 7 and 8, to include the reference number 600 as identifying "the coding side."

Applicant requests that the objection to the drawings be reconsidered and withdrawn.

II. Claim Rejection: Claims 1, 6, 7

Claims 1, 6, and 7 have been rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,724,157 (Otani) in view of U.S. Patent No. 6,307,966 (Chapin). Claim 1 has been amended. Applicant respectfully traverses this rejection.

Claim 1 is directed to an image encoding apparatus which sends a single transmission image by first coding a first image and a second image having a smaller area than the first image and combining them, with the second image arranged in the upper side of the first image in the single transmission image. The image encoding apparatus includes, among other things, an encoder portion for generating a first set of codes corresponding to the first rotated image and a second set of codes corresponding to the second rotated image, in a coding block unit determined by inserting an identification code at a position corresponding to the size of the first

rotated image. In other words, claim 1 now explicitly recites that a coding block unit is defined by inserting an "identification code."

The Office Action states that Otani teaches the claimed encoder portion and code merging portion, but does not expressly disclose an image rotating portion. Based on sections indicated in the Office Action, it appears that Otani's "report image" allegedly corresponds to the claimed second image and Otani's "communication image" allegedly corresponds to the claimed first image.

Otani discloses an approach to report printout processing for a facsimile apparatus (method shown in Figure 2). In particular, Otani teaches a method of outputting the results of a facsimile communication in which a report accompanied by an image can be printed out on a single sheet of paper ("Summary of the Invention").

According to Otani, data related to results of communication one line at a time is created and encoded with an encoder 105, and stored in an accumulating memory 111 (steps S1 to S5). Communication image data is read from the accumulating memory, decoded, zoomed based on a zoom ratio, encoded and stored back in accumulating memory (steps S6 to S9). The report image and the communication image are read out of the accumulating memory consecutively, connected together and printed out as a report accompanied by an image (col. 6, lines 13-20). Correlation between the communication image and report image is thus accomplished by the common storage in the accumulating memory.

Claim 1 recites that the encoder portion generates "a first set of codes corresponding to the first rotated image and a second set of codes corresponding to the second rotated image, based on the coding block unit determined depending on the size of the first rotated image."

According to the JPEG standard, when the sender information is inserted at the leading side of the image, the compressed data is divided by restart markers into rectangular blocks of the same length as the sender information (present specification at pages 15-16). In other words, if the sender information is inserted at the leading side of the image, codes for the first image are generated based on the coding block unit determined depending on the size of the second image, i.e., length of sender information. In JP '210, the coding block unit is determined based on the size of the sending agency information.

As disclosed in the present specification, the number of restart markers inserted within the image is dictated by the JPEG standard. All coding blocks are required to be of the same size. However, Applicants have realized that the number of coding blocks can be reduced by rotating the image 180°.

The claimed "coding block unit determined depending on the size of the first rotated image" pertains generally to the insertion of a restart marker RM, i.e. identification code, according to methods shown in Figures 10, 11, and 12. As described in the present specification, the size of the coding block unit can be set based on the size of the first image because the sender information is not added to the upper side of the image.

Applicant submits that Otani and Chapin, either alone or in combination, fail to teach an encoder portion for generating a first set of codes corresponding to the first rotated image and a second set of codes corresponding to the second rotated image, in a coding block unit determined by inserting an identification code at a position corresponding to the size of the first rotated image.

A. One of ordinary skill in the art would not be motivated to combine Otani and Chapin in a manner of the claimed invention.

The Examiner presents a statement of a motivation to combine which states that it would have been obvious to combine Otani and Chapin because Chapin allegedly teaches "rotation without the need for a large page buffer or memory which increases productivity and decreases processing time," and cites column 5, lines 57-67 of Chapin.

The paragraph at column 5, lines 57-67 of Chapin is as follows:

> "One of the advantages of the present invention is that the rotated data can be compressed so that there is no need for a large post-rotation page buffer or memory. For example, an 11.times.17 inch document at 1200.times.600 spots per inch requires a 16.5 Megabyte page buffer for conventional rotation. In the present invention, if bands of 200,000 bytes are created and these bands are compressed at a ratio of 20 to 1, the total memory needed for the same document is only about 1.2 Megabytes. That is, 800,000 bytes of memory for the compressed rotated bands and a two band buffer of 200,000 bytes each."

To establish obviousness based on a combination of elements disclosed in the prior art, there must be some motivation, suggestion, or teaching of the desirability of making the specific combination that was made by the applicant. The motivation suggestion or teaching may come explicitly from the statements in the prior art, the knowledge of one of ordinary skill art, or in some cases, the nature of the problem to be solved. See Dembiczak 50 USPQ at 1614 (Fed.Cir. 1999). In Kotzab, the CAFC held that even though various elements of the claimed invention were present (in two separate embodiments of the same prior art reference), there was no motivation to combine the elements from the separate embodiments, based on the teachings in the prior art.

It can be seen that the section of Chapin relied on for evidence of a motivation does not pertain to including a rotation operation in facsimile report generation, as disclosed in Otami. Thus, the motivation statement made in the Office Action does not provide a motivation to combine the teaching of image rotation of Chapin and facsimile report generation of Otami. Rather, Chapin merely teaches an improved method of rotating an image.

For the above stated reasons, Applicant submits that the rejection fails to establish *prima facie* obviousness. Applicant requests reconsideration and withdrawal of the rejection.

B. Claim Rejection: Claims 2-5

Claims 2-5 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Otani in view of Chapin, and further in view of JP 11-313210 (JP '210).

For at least the reasons above for claim 1, Applicant submits that the rejection fails to establish prima facie obviousness for claims 2-5, as well.

In addition, claim 2 further recites that the encoder portion determines an interval at which identification codes indicating coding block units are inserted, based on the size of the first rotated image.

In an encoder portion of the present invention, a first set of codes corresponding to the first rotated image are based on the coding block unit determined depending on the size of the first rotated image. For example, with respect to Figure 10, the size of the first rotated image is the line count Y1. The leading marker code portion TM is set to the actual line count Y1 + H. Dummy data having H lines is attached under the rotated input image. The encoder encodes the

combined image as lines Y1 + H. Subsequently, a restart marker is inserted between the compressed data for the rotated image and the dummy data. Thus, the coding block unit identified by the restart marker is determined based on the size of the first rotated image.

According to the JPEG standard, when the sender information is inserted at the leading side of the image, the compressed data is divided by restart markers into rectangular blocks of the same length as the sender information (present specification at pages 15-16). In other words, if the sender information is inserted at the leading side of the image, codes for the first image are generated based on the coding block unit determined depending on the size of the second image, i.e., length of sender information. In JP '210, the coding block unit is determined based on the size of the sending agency information.

As disclosed in the present specification, the number of restart markers inserted within the image is dictated by the JPEG standard. All coding blocks are required to be of the same size. Applicants in the present invention have realized that the number of coding blocks can be reduced by rotating the image 180°.

Otani is primarily directed to the feature of printing a report of facsimile transmission at the transmission side. Otani does not disclose transmission of color images, nor does it disclose encoding based on JPEG. In other words, Otani does not relate to the environment and associated problem solved by the present invention.

JP '210 does relate to encoding of color images based on JPEG for facsimile transmission. However, as can be seen in drawing 2, the coding block unit is based on the size of the sending agency information 51. Thus, unlike the present invention, the coded data has several

small encoded blocks that are transmitted (e.g., 50b, 50c, 50d). In other words, JP '210 represents the prior art, which the present invention improves over.

As can be seen in drawing 2(b), JP '210 would have the problem solved by the present invention. In particular, since the sending agency information 51 replaces the leading edge block 50a of the color photography image 50a to 50d, the size of each block is the size of the sending agency information block 51 (para. 0083), i.e., rather than the size of the color photography image.

Thus, Applicant submits that JP '210 only shows an interval at which identification codes are inserted as being based on the size of the sender agency information (i.e., second image). Accordingly, Applicant submits that the rejection fails to teach each and every element of claim 2. At least for this additional reason, Applicant submits that the rejection fails to establish prima facie obviousness for claim 2.

In view of the above amendment, applicant believes the pending application is in condition for allowance.

Dated: July 15, 2005

Respectfully submitted,

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